# T08D06 – (18.3) Salt Hydrolysis ****Notes****

Name ……………………………………………………..

1. 18.3.1 Deduce whether salts form acidic, alkaline or neutral aqueous solutions. (3)
   1. Provide the acid-base definition of a salt:
   2. Again, complete the following table for a group of normal and acid salts:

|  |  |  |
| --- | --- | --- |
| **Acid** | **Salt** | **Example** |
| HCl |  |  |
| HNO3 |  |  |
| CH3COOH |  |  |
| H2SO4 |  |  |
| H2CO3 |  |  |
| HCN |  |  |

* 1. How do acid salts behave in aqueous solutions?
  2. When normal salts dissolve in aqueous solution, the strength of their conjugate acids and bases determine the acidity of the resulting solution
     1. Provide the equation(s) for the salt NaCl in aqueous solution:
        1. What is the conjugate base of Na+?
        2. What is the conjugate acid of Cl-?
        3. What is the resulting pH?
     2. What is salt hydrolysis and how is it different than the above example?
     3. Provide the equation(s) for the salt Na2CO3 in aqueous solution:
        1. What is the conjugate base of Na+?
        2. What is the conjugate acid of CO32-?
        3. What is the resulting pH?
     4. Provide the equation(s) for the salt of NH4Cl in aqueous solution:
        1. What is the conjugate base of NH4+?
        2. What is the conjugate acid of Cl-?
        3. What is the resulting pH?
     5. Provide the equation(s) for the salt CH3COONH4 in aqueous solution:
        1. What is the conjugate base of NH4+?
        2. What is the conjugate acid of CH3COO-?
        3. What is the resulting pH?
     6. Provide the equation(s) for the salt FeCl3 in aqueous solution:
        1. What is the conjugate base of Fe3+?
        2. What is the conjugate acid of Cl-?
        3. What is the resulting pH?
        4. Now provide a structural formula reaction for the same reaction:
        5. What type of coordinate covalent compounds work for such a reaction?
  3. In summation, complete the following table for how salts change the pH of aqueous solutions

|  |  |  |
| --- | --- | --- |
| **Type of salt:** | **Example:** | **Resultant pH** |
| Acid Salts |  |  |
| Normal Salt:  Strong Base/Strong Acid |  |  |
| Normal Salt:  Weak Base/Strong Acid |  |  |
| Normal Salt:  Strong Base/Weak Acid |  |  |
| Normal Salt:  Weak Base/Weak Acid |  |  |
| Coordinate Covalent Compounds |  |  |